(FILE 'HOME' ENTERED AT 12:38:31 ON 27 JAN 2000)

FILE 'MEDLINE, CANCERLIT, EMBASE, BIOTECHDS, CAPLUS, BIOSIS' ENTERED AT 12:39:04 ON 27 JAN 2000
L1 14216 S CROWN,ETHER OR CRYPTATE OR POLYDENTATE OR CYCLIC POLYETHER
L2 1119528 S POLYMER OR POLYCATION OR POLY-L-LYSINE OR LIGAND
L3 2569091 S DNA OR NUCLEIC OR POLYNUCLEOTIDE OR PLASMID OR VECTOR
L4 3814230 S TRANSFE? OR DELIVERY OR GENE THERAPY OR CARRIER OR COMPLEX
L5 2768 S L1 AND L2
L6 24 S L5 AND L3
L7 16 DUP REM L6 (8 DUPLICATES REMOVED)
L8 1596 S L5 AND L4
L9 3692302 S ENHANCE# OR INCREASE# OR CONJUGATE# OR COMPLEX##
L10 1456 S L9 AND L8
L11 545972 S CATION# OR LYSINE
L12 446 S L10 AND L11
L13 432 DUP REM L12 (14 DUPLICATES REMOVED)
L7 ANSWER 16 OF 16 MEDLINE
AN 84235911 MEDLINE
DN 84235911
TI Chelation of cadmium.
AU Andersen O
SO ENVIRONMENTAL HEALTH PERSPECTIVES, (1984 Mar) 54 249-66.
Journal code: EI0. ISSN: 0091-6765.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198410
AB The toxicity of cadmium is determined by chelation reactions: in vivo, Cd2+ exists exclusively in coordination complexes with biological ligands, or with administered chelating agents. The Cd2+ ion has some soft character, but it is not a typical soft ion. It has a high degree of polarizability, and its complexes with soft ligands have predominantly covalent bond characteristics. Cd2+ forms the most stable complexes with soft donor atoms (S much greater than N greater than 0). The coordination stereochemistry of Cd2+ is unusually varied, including coordination numbers from 2 to 8. Even though the Cd2+ ion is a d10 ion, disturbed coordination geometries are often seen. Generally, the stability of complexes increases with the number of coordination groups contributed by the ***ligand*** ; consequently, complexes of Cd2+ with ***polydentate*** ligands containing SH groups are very stable. Cd2+ in metallothionein (MT) is coordinated with 4 thiolate groups, and the log stability constant is estimated to 25.5. Complexes between Cd2+ and low molecular weight monodentate or bidentate ligands, e.g., free amino acids (LMW-Cd), seem to exist very briefly, and Cd2+ is rapidly bound to high molecular weight proteins, mainly serum albumin. These complexes (HMW-Cd) are rapidly scavenged from blood, mainly by the liver, and Cd2+ is redistributed to MT. After about 1 day the Cd-MT complex (MT-Cd) almost exclusively accounts for the total retained dose of Cd2+, independent of the route of exposure. MT-Cd is slowly transferred to and accumulated in kidney cortex. The acute toxicity and interorgan distribution of parenterally administered Cd2+ are strongly influenced by preceding MT

induction, or decreased capacity for MT synthesis; however, the gastrointestinal (GI) uptake of Cd2+ seems unaffected by preceding MT induction resulting in considerable capacity for Cd2+ chelation in intestinal mucosa, and this finding indicates that endogenous MT is not involved in Cd2+ absorption. The toxicity of parenterally administered Cd2+ is strongly enhanced when administered as complexes with NTA or STPP , but it is much decreased when administered as a complex with EDTA. In chronic oral exposure the toxicity and GI uptake of Cd2+ is not changed when Cd2+ is administered as a complex with the detergent formula chelating agents NTA, EDTA and STPP . The uptake of Cd2+ from ligated intestine in vivo was not affected by administration of Cd2+ as complexes with CYS or GSH, but significantly reduced by complexation with EDTA or BAL. The acute toxicity of orally administered Cd2+ is reduced when Cd2+ is administered as a complex with EDTA.(ABSTRACT TRUNCATED AT 400 WORDS)

L7 ANSWER 15 OF 16 CAPLUS COPYRIGHT 2000 ACS
AN 1986:84933 CAPLUS
DN 104:84933
TI Dissolution of nucleotides and polynucleotides in nonaqueous solvents and mixed nonaqueous/aqueous solvent systems, their solutions and their use
IN Odell, Barbara
PA Shell Internationale Research Maatschappij B. V., Neth.
SO Eur. Pat. Appl., 11 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI EP 156414	A2	19851002	EP 1985-200264	19850226
EP 156414	A3	19860709		
EP 156414	B1	19890125		
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
CA 1234547	A1	19880329	CA 1985-474720	19850220
AT 40379	E	19890215	AT 1985-200264	19850226
DK 8500989	A	19850907	DK 1985-989	19850304
AU 8539443	A1	19850912	AU 1985-39443	19850304
AU 590512	B2	19891109		
JP 60208998	A2	19851021	JP 1985-41390	19850304
IL 74492	A1	19880630	IL 1985-74492	19850304
US 4739045	A	19880419	US 1985-708622	19850305
PRAI GB 1984-5763		19840306		
EP 1985-200264		19850226		

AB A process is described for the dissoln. of nucleotides and(or) polynucleotides in a nonaq. and(or) mixed nonaq./aq. medium in the presence of a macromol. ***ligand*** such as a ***crown*** ***ether*** . Thus, the purifn. of ***DNA*** from RNA and extraneous protein can be carried out very simply by selective dissoln. in an alc. contg. a macrocyclic polyether in which the less sol. components such as RNA and protein ppt. In addn. to providing a means for sepg. and purifying nucleotides and polynucleotides, the process also may be used for the conversion of double-stranded ***DNA*** into single-stranded

L7 ANSWER 7 OF 16 CAPLUS COPYRIGHT 2000 ACS

AN 1997:6136 CAPLUS
DN 126:114711
TI The study of rare earth metals - ligands - ***DNA*** ternary interactions
AU Ihara, T.; Sueda, S.; Kumasaki, A.; Tsuji, H.; Takagi, M.
CS Dep. of Chemical Science and Technology, Kyushu University, Fukuoka, 812-81, Japan
SO Kidorui (1996), 28, 60-61
CODEN: KIDOEP; ISSN: 0910-2205
PB Nippon Kidorui Gakkai
DT Journal
LA Japanese/English
AB Recently, it was revealed that rare earth metals, in particular Ce(IV), significantly catalyzed the hydrolysis of ***DNA*** phosphodiester bond. Then, it has been recognized the requirement of developing new ***DNA*** ligands for locating metal ions to appropriate loci on ***DNA*** , in which it is desirable that the interaction of the ligands with the metal increase the hydrolytic activity of the metal or, at least, does not suppress it seriously. For this purpose, we synthesized anthraquinone - ***crown*** ***ether*** (ant-crown) and - sugar (ant-D/L-glc) conjugates as ***DNA*** ligands. The ***DNA*** ligands enhanced the ***DNA*** cleaving activity of lanthanoid ions in a synergistic way. ***DNA*** cleaving activities of these metal ions were appreciably diminished by ant-ida, which had iminodiacetic acid as a metal binding site. These results were explicable by Lewis acidity or residual coordination sites of centered metal in the complex with ***DNA*** ligands. Although these tendency is common in traditional study on the org. ester hydrolysis by using metal ion as a catalyst, the results obtained here is the first example of systematic study of the chelator effect of conjugated ***DNA*** ***ligand*** on the rare earth metal catalyzed ***DNA*** hydrolysis.

L7 ANSWER 5 OF 16 BIOTECHDS COPYRIGHT 2000 DERWENT INFORMATION LTD
AN 1998-02535 BIOTECHDS
TI ***Nucleic*** acids covalently modified with electron donors and acceptors;
DNA probe for use in hybridization, diagnostic or bioconductor
AU Meade T J; Welch T W
PA California-Inst.Technol.
LO Pasadena, CA, USA.
PI WO 9746568 11 Dec 1997
AI WO 1997-US9739 4 Jun 1997
PRAI US 1996-659987 7 Jun 1996
DT Patent
LA English
OS WPI: 1998-042109 [04]
AB A nucleoside containing a covalently attached ***polydentate*** ***ligand*** (CAPL) is claimed. The ***ligand*** is attached at the 2' or 3' position of the nucleoside. Also claimed are: a phosphoramidite nucleoside containing a CAPL; a composition of a nucleoside containing a CAPL, where the nucleoside is covalently attached to control pore glass (CPG); a composition of an oligonucleotide (oligo) covalently attached to CPG, where at least 1 nucleoside of the oligo is ***polydentate*** -modified; a composition of nucleoside, oligo or phosphoramidite nucleoside with a transition metal chelated to the

polydentate nucleoside; a ss ***nucleic*** acid containing at least 1 electron donor and at least 1 electron acceptor attached via ***polydentate*** nucleoside, a terminal base or the 2' or 3' position of a ribose of the ribose-phosphate backbone; a composition of a ss ***nucleic*** acid containing at least 1 electron donor and a ss ***nucleic*** acid with at least 1 electron acceptor; production of ***nucleic*** acid with electron transfer moiety attached; and detecting a target sequence by hybridizing a ss ***nucleic*** acid containing at least 1 electron donor and electron acceptor. (81pp)

L

(FILE 'HOME' ENTERED AT 15:41:23 ON 27 JAN 2000)

FILE 'MEDLINE' ENTERED AT 15:43:24 ON 27 JAN 2000
L1 899 S CROWN ETHER OR CRYPTATE OR POLYDENTATE OR POLYETHER
L2 113394 S POLYMER OR POLYCATION# OR CATION# OR CATIONIC OR POLY-L-LYSIN
L3 608876 S DNA OR NUCLEIC OR POLYNUCLEOTIDE OR PLASMID OR VECTOR
L4 795603 S TRANSFE? OR DELIVER? OR GENE THERAPY OR CARRIER OR COMPLEX##
L5 1356804 S ENHANCE# OR INCREASE# OR COMPACT##
L6 130 S L1 AND L2
L7 7 S L6 AND L3
L8 48 S L6 AND L4
L9 15 S L8 AND L5
L10 1 S L8 AND (POLYCHELAT? OR CHELAT##)

FILE 'MEDLINE, CANCERLIT, EMBASE, BIOTECHDS, BIOSIS, CAPLUS' ENTERED AT 15:54:55 ON 27 JAN 2000
L11 84 S L7
L12 5765 S L8
L13 895 S L9
L14 179 S L10
L15 171 DUP REM L14 (8 DUPLICATES REMOVED)

L15 ANSWER 50 OF 171 CAPLUS COPYRIGHT 2000 ACS
AN 1994:137658 CAPLUS
DN 120:137658
TI ***Polymer*** -supported catalysts
IN Dobson, John Carroll; Venter, Jeremia Jeseja; McDade, Christine; Mirabelli, Mario Guiseppe Lucia
PA Rohm and Haas Co., USA
SO Eur. Pat. Appl., 13 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI EP 557131	A2	19930825	EP 1993-301254	19930219
EP 557131	A3	19931222		
EP 557131	B1	19980325		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
US 5242877	A	19930907	US 1992-840714	19920221
CA 2089128	AA	19930822	CA 1993-2089128	19930209
JP 06015184	A2	19940125	JP 1993-30695	19930219
AT 164328	E	19980415	AT 1993-301254	19930219
ES 2113999	T3	19980516	ES 1993-301254	19930219
PRAI US 1992-840714		19920221		

OS MARPAT 120:137658
AB The title catalysts, esp. for transesterification, comprise polymd. ***chelated*** metal compds. where the metal is coordinated to .gtoreq.1 ***polydentate*** ***ligand*** providing .gtoreq.3 chelating bonds to the metal. A catalyst was prepd. by polymn. of divinylbenzene, styrene and zirconium vinylbenzylacetylacetonate ***complex*** .

L15 ANSWER 36 OF 171 MEDLINE DUPLICATE 1

AN 96231429 MEDLINE
DN 96231429
TI An Rh-105 ***complex*** of tetrathiacyclohexadecane diol with potential for formulating bifunctional ***chelates*** .
AU Venkatesh M; Goswami N; Volkert W A; Schlemper E O; Ketring A R; Barnes C L; Jurisson S
CS Isotope Division, B.A.R.C., Trombay, Bombay, India.
SO NUCLEAR MEDICINE AND BIOLOGY, (1996 Jan) 23 (1) 33-40.
Journal code: BOO. ISSN: 0969-8051.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199704
EW 19970401
AB 1,5,9,13-Tetrathiacyclohexane-3,11-diol (16S4-diol), a sulfur ***crown*** ***ether*** analog, was studied as a potential chelating agent to ***complex*** no- ***carrier*** -added (NCA) grade 105Rh(III) in high yield at low ***ligand*** concentrations. trans-[RhCl2(16S4-diol)]chi (chi = Cl, PF6) was prepared using nonradioactive RhCl3.3H2O and characterized by UV-Vis, nuclear magnetic resonance (NMR) and X-ray crystallography. It was shown to have a +1 charge with the Rh(III) metal center coordinated to the four S atoms equatorially and two Cl atoms in trans axial positions. The 105Rh-16S4-diol ***complex*** prepared with NCA 105Rh(III)-chloride reagent was found to exhibit identical chromatographic properties as trans-[Rh(III)Cl2(16S4-diol)]+ (including silica and C-18 thin-layer chromatography [TLC] and electrophoresis). The preparation of 105Rh-16S4-diol ***complex*** formation optimized for conditions of pH, temperature, time, % ethanol and quantity of 16S4-diol resulted in yields > 90%. Very low quantities of 16S4-diol (3 nmol) ***complex*** NCA 105Rh(III) under relatively mild reaction conditions (heating at 64 degrees C for 90 min) in the presence of ethanol (10%), yielded the high specific activity 105Rh-16S4-diol ***complex*** as a single ***cationic*** species. The 105Rh-16S4-diol ***complex*** was shown to be stable for > or = 4 days in physiological buffers at room temperature and in human serum at 37 degrees C.

L15 ANSWER 35 OF 171 CAPLUS COPYRIGHT 2000 ACS
AN 1997:6136 CAPLUS
DN 126:114711
TI The study of rare earth metals - ligands - DNA ternary interactions
AU Ihara, T.; Sueda, S.; Kumasaki, A.; Tsuji, H.; Takagi, M.
CS Dep. of Chemical Science and Technology, Kyushu University, Fukuoka, 812-81, Japan
SO Kidorui (1996), 28, 60-61
CODEN: KIDOEP; ISSN: 0910-2205
PB Nippon Kidorui Gakkai
DT Journal
LA Japanese/English
AB Recently, it was revealed that rare earth metals, in particular Ce(IV), significantly catalyzed the hydrolysis of DNA phosphodiester bond. Then, it has been recognized the requirement of developing new DNA ligands for locating metal ions to appropriate loci on DNA, in which it is desirable that the interaction of the ligands with the metal increase the hydrolytic activity of the metal or, at least, does not suppress it seriously. For

this purpose, we synthesized anthraquinone - ***crown*** ***ether*** (ant-crown) and - sugar (ant-D/L-glc) ***conjugates*** as DNA ligands. The DNA ligands enhanced the DNA cleaving activity of lanthanoid ions in a synergistic way. DNA cleaving activities of these metal ions were appreciably diminished by ant-ida, which had iminodiacetic acid as a metal binding site. These results were explicable by Lewis acidity or residual coordination sites of centered metal in the ***complex*** with DNA ligands. Although these tendency is common in traditional study on the org. ester hydrolysis by using metal ion as a catalyst, the results obtained here is the first example of systematic study of the ***chelator*** effect of ***conjugated*** DNA ***ligand*** on the rare earth metal catalyzed DNA hydrolysis.

monoclonal antibody.

L15 ANSWER 28 OF 171 CAPLUS COPYRIGHT 2000 ACS
AN 1997:113426 CAPLUS
DN 126:122483
TI Chelating polymers as contrast agents for medical imaging
IN Hollister, Kenneth Robert; Keller, Kenneth Edmond; Wei, Dong; Peng, Xin; Ladd, David Lee; Snow, Robert Allen
PA Nycomed Imaging A/s, Norway; Cockbain, Julian
SO PCT Int. Appl., 31 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9640274	A2	19961219	WO 1996-GB1308	19960603
WO 9640274	A3	19970213		
W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN				
US 5801228	A	19980901	US 1995-478803	19950607
CA 2223456	AA	19961219	CA 1996-2223456	19960603
AU 9658415	A1	19961230	AU 1996-58415	19960603
EP 831930	A1	19980401	EP 1996-919953	19960603
R: DE, ES, FR, GB, IT, IE				
CN 1192160	A	19980902	CN 1996-195898	19960603
NO 9705713	A	19980202	NO 1997-5713	19971205
PRAI US 1995-478803		19950607		
WO 1996-GB1308		19960603		

AB The invention provides polymeric polychelants contg. ***polymer*** repeat units of the formula [L-Ch-L-B](where Ch is a ***polydentate*** chelant moiety; L is an amide or ester linkage; B is a hydrophobic group providing a carbon chain of at least 4 carbon atoms between the L linkages it interconnects) or a salt or ***chelate*** thereof, with the proviso that where Ch is 2,5-biscarboxymethyl-2,5-diazahex-1,6-diyl, the polychelant is metalated with lanthanide or manganese ions or B provides a carbon chain of at least 10 carbon atoms between the L linkages it interconnects and their salts and ***chelates*** . The paramagnetic ***polychelates*** of the polychelants of the invention have remarkably

high R1 relaxivities. An example ***complex*** is

L15 ANSWER 27 OF 171 CAPLUS COPYRIGHT 2000 ACS
AN 1997:132845 CAPLUS
DN 126:141760
TI Use of a phycobiliprotein-binding peptide ***complex*** as a fluorescent tracer
IN Mathis, Gerard
PA Cis Bio International, Fr.; Mathis, Gerard
SO PCT Int. Appl., 23 pp.
CODEN: PIXXD2
DT Patent
LA French
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9642016	A1	19961227	WO 1996-FR865	19960607
W: JP, US				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
FR 2735238	A1	19961213	FR 1995-6821	19950609
FR 2735238	B1	19970905		
EP 830601	A1	19980325	EP 1996-922078	19960607
EP 830601	B1	19991027		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 11508357	T2	19990721	JP 1996-502695	19960607
AT 186120	E	19991115	AT 1996-922078	19960607

PRAI FR 1995-6821 19950609
WO 1996-FR865 19960607

AB The use of a phycobiliprotein-binding peptide ***complex*** as a fluorescent tracer in a method using fluorescence to detect and/or det. an analyte is disclosed. The phycobiliprotein is selected from the group phycoerythrin, phycoerythrocyanin, phycocyanin, allophycocyanin, and allophycocyanin B. Fluorescent ***conjugates*** , which consist of said ***complex*** covalently bonded to one of the elements in a ***ligand*** /receptor specific binding pair, are also disclosed. An example is given of the detn. of carcinoembryonic antigen by a homogeneous immunoassay using as donor compd. europium tris bipyridine diamine ***cryptate*** coupled to monoclonal antibody and as acceptor compd. either allophycocyanin or a ***complex*** of it coupled to another monoclonal antibody.

L15 ANSWER 22 OF 171 BIOTECHDS COPYRIGHT 2000 DERWENT INFORMATION LTD
AN 1998-02535 BIOTECHDS
TI Nucleic acids covalently modified with electron donors and acceptors; DNA probe for use in hybridization, diagnostic or bioconductor
AU Meade T J; Welch T W
PA Califomia-Inst.Technol.
LO Pasadena, CA, USA.
PI WO 9746568 11 Dec 1997
AI WO 1997-US9739 4 Jun 1997
PRAI US 1996-659987 7 Jun 1996
DT Patent
LA English
OS WPI: 1998-042109 [04]
AB A nucleoside containing a covalently attached ***polydentate***

ligand (CAPL) is claimed. The ***ligand*** is attached at the 2' or 3' position of the nucleoside. Also claimed are: a phosphoramidite nucleoside containing a CAPL; a composition of a nucleoside containing a CAPL, where the nucleoside is covalently attached to control pore glass (CPG); a composition of an oligonucleotide (oligo) covalently attached to CPG, where at least 1 nucleoside of the oligo is ***polydentate*** -modified; a composition of nucleoside, oligo or phosphoramidite nucleoside with a transition metal ***chelated*** to the ***polydentate*** nucleoside; a ss nucleic acid containing at least 1 electron donor and at least 1 electron acceptor attached via ***polydentate*** nucleoside, a terminal base or the 2' or 3' position of a ribose of the ribose-phosphate backbone; a composition of a ss nucleic acid containing at least 1 electron donor and a ss nucleic acid with at least 1 electron acceptor; production of nucleic acid with electron ***transfer*** moiety attached; and detecting a target sequence by hybridizing a ss nucleic acid containing at least 1 electron

L15 ANSWER 58 OF 171 CAPLUS COPYRIGHT 2000 ACS
AN 1992:455979 CAPLUS
DN 117:55979
TI Multicomponent chelating agents for use in chemotherapy and diagnosis
IN Wrasidlo, Wolfgang J.; Silveira, Michael H.
PA Brunswick Corp., USA
SO PCT Int. Appl., 50 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9205804	A1	19920416	WO 1991-US7016	19910926
W: CA, JP				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, NL, SE				
CA 2092434	AA	19920328	CA 1991-2092434	19910926
EP 554358	A1	19930811	EP 1991-919986	19910926
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
JP 06505795	T2	19940630	JP 1991-518342	19910926

PRAI US 1990-588816 19900927
WO 1991-US7016 19910926

AB A metal ion-chelating agent comprises a 1st mol. component which is a ***chelate*** having a high affinity for metal ions and a high stability (Ks), linked to .gtoreq.1 (preferably 2) 2nd mol. component which is a ***chelate*** having a low Ks and the ability to undergo rapid metal exchange. Preferably the 2nd component ***chelates*** a metal (e.g radioelement) and is then ***chelated*** to the 1st component in such a way as to form coordinate bonds. The above agents are highly stable after binding 1 or more metals. The chelating agent-metal ***complexes*** may be ***conjugated*** to target cell-binding proteins to cause localized cytotoxicity or for in vitro or in vivo diagnosis. Thus, 2 mols. diethylene triamine pentaacetic acid were coupled to 1 mol. 1,4,10,13-tetraoxa-7,16-diazacyclooctadecane, and the product was ***complexed*** with PbO2 and then ***conjugated*** to monoclonal antibody 9.2.27. The above ***conjugate*** inhibited melanoma cells in vitro and bound specifically to melanoma tumors in vivo.

L7 ANSWER 1 OF 7 MEDLINE
AN 2000020710 MEDLINE
DN 20020710
TI Double-strand ***DNA*** hydrolysis by dilanthanide complexes.
AU Branum M E; Que L Jr
CS Department of Chemistry and Center for Metals in Biocatalysis University of Minnesota, 207 Pleasant Street S.E., Minneapolis MN 55455, USA.
NC GM-51849 (NIGMS)
SO J Biol Inorg Chem, (1999 Oct) 4 (5) 593-600.
Journal code: DGU. ISSN: 0949-8257.
CY GERMANY: Germany, Federal Republic of
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200002
EW 20000204
AB Although there has been progress in developing artificial hydrolytic ***DNA*** cleaving agents, none of these has been shown to carry out the double-strand hydrolysis of ***DNA*** . We demonstrate that La(III) or Ce(IV) combined with the ***ligand*** 1,3-diamino-2-hydroxypropane-N,N,N', N'-tetraacetate (HPTA) in a 2 : 1 ratio can efficiently cleave supercoiled ***plasmid*** ***DNA*** at 55 degrees C within a 3-h period. Analysis of end-labeled restriction fragments cleaved by these complexes reveals 3'- and 5'-ends consistent with a hydrolytic mechanism. Unlike for other ***polydentate*** carboxylate complexes, ***plasmid*** ***DNA*** cleavage by La(2)(HPTA) or Ce(2)(HPTA) affords a significant amount of linear ***DNA*** with a considerable fraction of the supercoiled form still remaining. This result implies that La(2)(HPTA) and Ce(2)(HPTA) can carry out double-strand cleavage of ***plasmid*** ***DNA*** . La(2)(HPTA) and Ce(2)(HPTA) represent the first metal complexes demonstrated to be capable of double-strand hydrolytic cleavage of ***plasmid*** ***DNA*** .

L9 ANSWER 1 OF 15 MEDLINE
AN 1999257873 MEDLINE
DN 99257873
TI Continuous ***delivery*** of human and mouse erythropoietin in mice by genetically engineered ***polymer*** encapsulated myoblasts.
AU Regulier E; Schneider B L; Deglon N; Beuzard Y; Aebischer P
CS Division of Surgical Research, Centre Hospitalier Universitaire Vaudois, Lausanne University Medical School, Switzerland.
SO GENE THERAPY, (1998 Aug) 5 (8) 1014-22.
Journal code: CCE. ISSN: 0969-7128.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199908
EW 19990801
AB The transplantation of ***polymer*** encapsulated myoblasts genetically engineered to secrete erythropoietin (Epo) may obviate the need for repeated parenteral administration of recombinant Epo as a treatment for chronic renal failure, cancer or AIDS-associated anemia. To explore this possibility, the human and mouse Epo cDNAs under the control of the housekeeping mouse PGK-1 promoter were ***transfected*** into

mouse C2C12 myoblasts, which can be terminally differentiated upon exposure to low serum-containing media. Pools releasing 150 IU human Epo per 10(6) cells per day and 390 IU mouse Epo per 10(6) cells per day were selected. ***Polyether*** -sulfone (PES) capsules loaded with approximately 200,000 ***transfected*** myoblasts from these pools were implanted on the dorsal flank of DBA/2J, C3H and C57BL/6 mice. With human Epo secreting capsules, only a transient ***increase*** in the hematocrit occurred in DBA/2J mice, whereas no significant response was detected in C3H or C57BL/6 mice. On the contrary, all mice implanted with capsules releasing mouse Epo ***increased*** their hematocrit over 85% as early as 7 days after implantation and sustained these levels for at least 80 days. All retrieved implants released Epo and contained well preserved myoblasts. Moreover most capsules were surrounded by a neovascularization. Mice transplanted with nonencapsulated C2C12 cells releasing mouse Epo showed only a transitory elevation of their hematocrit reflecting the poor engraftment of injected myoblasts. These results indicate that ***polymer*** encapsulation of genetically engineered myoblasts is a promising approach for the long-term ***delivery*** of bioactive molecules, allowing the resolution of the shortcomings of free myoblast ***transfer*** .

L15 ANSWER 140 OF 171 CAPLUS COPYRIGHT 2000 ACS
AN 1980:110881 CAPLUS
DN 92:110881
TI The preparation and ***cation*** complexation properties of macrocyclic ***polyether*** -diester ligands: a short review
AU Bradshaw, Jerald S.; Asay, R. Elliott; Baxter, Steven L.; Fore, Paul E.; Jolley, Scott T.; Lamb, John D.; Maas, Garren E.; Thompson, Michael D.; Izatt, Reed M.; Christensen, James J.
CS Chem. Dep., Brigham Young Univ., Provo, UT, 84602, USA
SO Ind. Eng. Chem. Prod. Res. Dev. (1980), 19(1), 86-91
CODEN: IEPRA6; ISSN: 0019-7890
DT Journal; General Review
LA English
AB The synthesis and complexation properties of a series of macrocyclic ***polyether*** -diester ligands are reviewed (40 refs.). Over 70 compds. are listed. In general, the macrocyclic ***polyether*** -diester compds. are not as good at complexing metal ***cations*** as are the ***polyether*** crown compds. Diesters contg. a pyridine subcyclic unit, which ***complex*** very strongly with all ***cations*** studied, are an exception to the general rule stated above.

L15 ANSWER 75 OF 171 CAPLUS COPYRIGHT 2000 ACS
AN 1991:451095 CAPLUS
DN 115:51095
TI ***Polymer*** compositions with improved oxidative stability for sizes and coupling agents
IN Swisher, Robert Gregory; Gaa, Peter Charles; Watkins, Johnson Clifford; Kasunic, James William
PA PPG Industries, Inc., USA
SO Eur. Pat. Appl., 18 pp.
CODEN: EPXXDW
DT Patent
LA English

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI EP 381125	A2	19900808	EP 1990-101760	19900130
EP 381125	A3	19910123		
EP 381125	B1	19941117		
R: BE, CH, DE, ES, FR, GB, IT, LI, NL				
CA 1336110	A1	19950627	CA 1989-613518	19890927
ES 2066886	T3	19950316	ES 1990-101760	19900130
JP 02240170	A2	19900925	JP 1990-24996	19900202
JP 08003063	B4	19960117		
US 5130198	A	19920714	US 1990-515533	19900427
US 5247004	A	19930921	US 1992-912448	19920713
PRAI US 1989-306594		19890203		
US 1989-360594		19890203		
US 1990-515533		19900427		

OS MARPAT 115:51095

AB Coating and sizing compn. comprise (a) a ***polymer*** compn.; (b) a metal deactivator from ***polydentate*** ligands and compds. (RH2nCn)2N(CH2)xN(CnH2nR)2 (n = 1-6 integer, R = CO2H, OH, or their salts, ethers or esters) present in a metal ***chelate*** ; (c) a low-temp. antioxidant from a halogenated hydroxyl ammonium compd., hydrosulfide, bisulfite, phosphorus, and phosphate and a reducing agent from metal hypophosphite and ammonium hypophosphite; and (d) a high-temp. antioxidant from alkali metal and alk. earth metal phosphinates, thioethers and their polymers and mixts. The compn. may contain a ***carrier*** (H2O), may contain organofunctional coupling agent, may contain a crosslinker for the ***polymer*** , or may contain an epoxy-contg. polyester processing aid. Thus, a size compn. (25%-solids) contains epoxy novolak emulsion RDX-84853 59.6, Witco 290H (curable polyurethane emulsion) 14.9, .gamma.-aminopropyltriethoxysilane A-100 25, RD-1135B (epoxy polyester process aid) 5.0, di-Na EDTA dihydrate 1.0, Na hypophosphite 2.5, bis(tridecyl) thiodipropionate (Evanstab 13) 3.5, polyoxyethylene (Polyox WSR-301) 0.2%, and H2O to final vol. of 1 gal. The aq. size is dild. with H2O to desired vol., applied on glass fiber during formation, and formed into strands; the application rate gives an LOI of .apprx.1-1.4 wt.% of the strand. Continuous fiber winding in overlapping layers, drying at 141.degree. for 11 h partially cures via the crosslinker. Tube strands were treated with an antistat and alkali metal phosphinate before chopping into dry strands, which were injection-molded with polyamide to give reinforced polyamide having and oxidative stability.

melanoma cells in vitro and bound specifically to melanoma tumors in vivo.

L15 ANSWER 59 OF 171 CAPLUS COPYRIGHT 2000 ACS

AN 1992:444065 CAPLUS

DN 117:44065

TI ***Polydentate*** ***ligand*** fluorecence ***chelate*** -labeled biomolecules, especially antibodies for assays

IN Nakayama, Kazuyuki; Mochizuki, Hiroshi; Nobuhara, Masahiro; Mochida, Suguru

PA Mochida Seiyaku K. K., Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 04054455	A2	19920221	JP 1990-162569	19900622

PI JP 04054455 A2 19920221 JP 1990-162569 19900622

AB For immunoassay of e.g. human chorionic gonadotropin (hCG), anti-hCG monoclonal antibody was labeled with Eu-cryptand deriv. ***chelate*** (Eu-I ***chelate***). A sample contg. hCG in an anti-hCG monoclonal antibody-sensitized cuvette was incubated at room temp. for 2 h, followed by incubation with Eu-I ***chelate*** -labeled anti-hCG monoclonal antibody and measurement at 620 nm with excitation at 280 nm. Unlike RIA, the label used in the assay is nonhazardous.

L9 ANSWER 15 OF 15 MEDLINE

AN 78124213 MEDLINE

DN 78124213

TI Open chain crown-type polyethers and pyridinophane cryptands act as ionophores upon frog motor nerve and isolated rat heart cells.

AU Tummler B; Maass G; Muller W; Lamprecht W

SO BIOCHIMICA ET BIOPHYSICA ACTA, (1978 Mar 21) 508 (1) 122-9. Journal code: A0W. ISSN: 0006-3002.

CY Netherlands

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

EM 197807

AB Frog motor nerves and isolated heart cells from neonatal rats were incubated with solutions of open chain crown-type ***polyether*** or pyridinophane cryptand. The following alterations in membrane excitability and energy consumption were found: 1. The non-cyclic ***ligand*** stabilizes the resting potential of the frog nerve and reduces the pulsation rate of heart muscle cells. It is reversibly bound at the cell surface and does not affect the energy metabolism of the heart cells. (formula: see text) 2. The cryptand 1,12-dioxo-2,11-diaza-5,8,21,24-tetraoxa[12-8(2,11)] (2,6)-pyridinophane) ([2.2.1py]-diamide) is irreversibly bound by the tissues. It facilitates the depolarization of the nerve and shows a positively chronotropic effect upon the heart muscle cells. Single treatment of the cell cultures with 10 microgram [2.2.1py]-diamide per ml medium ***increased*** the activities of lactate dehydrogenase and of creatine kinase. When the cell cultures were treated three times at 24 h intervals with 10 microgram complexone/ml, the creatine kinase activity of the heart muscle cells decreased by about 40%. The physiological properties of the ligands are correlated with the stability of their alkali metal ion ***complexes*** and with the rate constants of ***complex*** formation. It is concluded that [2.2.1py]-diamide can act as a passive ***carrier*** for Na+ K+.

(FILE 'HOME' ENTERED AT 12:38:31 ON 27 JAN 2000)

FILE 'MEDLINE, CANCERLIT, EMBASE, BIOTECHDS, CAPLUS, BIOSIS' ENTERED AT 12:39:04 ON 27 JAN 2000

L1 14216 S CROWN ETHER OR CRYPTATE OR POLYDENTATE OR CYCLIC POLYETHER

L2 1119528 S POLYMER OR POLYCATION OR POLY-L-LYSINE OR LIGAND

L3 2569091 S DNA OR NUCLEIC OR POLYNUCLEOTIDE OR PLASMID OR VECTOR

L4 3814230 S TRANSFE? OR DELIVERY OR GENE THERAPY OR CARRIER OR COMPLEX
L5 2768 S L1 AND L2
L6 24 S L5 AND L3
L7 16 DUP REM L6 (8 DUPLICATES REMOVED)
L8 1596 S L5 AND L4
L9 3692302 S ENHANCE# OR INCREASE# OR CONJUGATE# OR COMPLEX##
L10 1456 S L9 AND L8
L11 545972 S CATION# OR LYSINE
L12 446 S L10 AND L11
L13 432 DUP REM L12 (14 DUPLICATES REMOVED)
L7 ANSWER 16 OF 16 MEDLINE
AN 84235911 MEDLINE
DN 84235911
TI Chelation of cadmium.
AU Andersen O
SO ENVIRONMENTAL HEALTH PERSPECTIVES, (1984 Mar) 54 249-66.
Journal code: EI0. ISSN: 0091-6765.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198410
AB The toxicity of cadmium is determined by chelation reactions: in vivo, Cd2+ exists exclusively in coordination complexes with biological ligands, or with administered chelating agents. The Cd2+ ion has some soft character, but it is not a typical soft ion. It has a high degree of polarizability, and its complexes with soft ligands have predominantly covalent bond characteristics. Cd2+ forms the most stable complexes with soft donor atoms (S much greater than N greater than 0). The coordination stereochemistry of Cd2+ is unusually varied, including coordination numbers from 2 to 8. Even though the Cd2+ ion is a d10 ion, disturbed coordination geometries are often seen. Generally, the stability of complexes increases with the number of coordination groups contributed by the ***ligand*** ; consequently, complexes of Cd2+ with ***polydentate*** ligands containing SH groups are very stable. Cd2+ in metallothionein (MT) is coordinated with 4 thiolate groups, and the log stability constant is estimated to 25.5. Complexes between Cd2+ and low molecular weight monodentate or bidentate ligands, e.g., free amino acids (LMW-Cd), seem to exist very briefly, and Cd2+ is rapidly bound to high molecular weight proteins, mainly serum albumin. These complexes (HMW-Cd) are rapidly scavenged from blood, mainly by the liver, and Cd2+ is redistributed to MT. After about 1 day the Cd-MT complex (MT-Cd) almost exclusively accounts for the total retained dose of Cd2+, independent of the route of exposure. MT-Cd is slowly transferred to and accumulated in kidney cortex. The acute toxicity and interorgan distribution of parenterally administered Cd2+ are strongly influenced by preceding MT induction, or decreased capacity for MT synthesis; however, the gastrointestinal (GI) uptake of Cd2+ seems unaffected by preceding MT induction resulting in considerable capacity for Cd2+ chelation in intestinal mucosa, and this finding indicates that endogenous MT is not involved in Cd2+ absorption. The toxicity of parenterally administered Cd2+ is strongly enhanced when administered as complexes with NTA or STPP , but it is much decreased when administered as a complex with EDTA. In chronic oral exposure the toxicity and GI uptake of Cd2+ is not changed when Cd2+ is administered as a complex with the detergent formula

chelating agents NTA, EDTA and STPP . The uptake of Cd2+ from ligated intestine in vivo was not affected by administration of Cd2+ as complexes with CYS or GSH, but significantly reduced by complexation with EDTA or BAL. The acute toxicity of orally administered Cd2+ is reduced when Cd2+ is administered as a complex with EDTA.(ABSTRACT TRUNCATED AT 400 WORDS)

L7 ANSWER 15 OF 16 CAPLUS COPYRIGHT 2000 ACS
AN 1986:84933 CAPLUS
DN 104:84933
TI Dissolution of nucleotides and polynucleotides in nonaqueous solvents and mixed nonaqueous/aqueous solvent systems, their solutions and their use
IN Odell, Barbara
PA Shell Internationale Research Maatschappij B. V., Neth.
SO Eur. Pat. Appl., 11 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 156414	A2	19851002	EP 1985-200264	19850226
	EP 156414	A3	19860709		
	EP 156414	B1	19890125		
	R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
	CA 1234547	A1	19880329	CA 1985-474720	19850220
	AT 40379	E	19890215	AT 1985-200264	19850226
	DK 8500989	A	19850907	DK 1985-989	19850304
	AU 8539443	A1	19850912	AU 1985-39443	19850304
	AU 590512	B2	19891109		
	JP 60208998	A2	19851021	JP 1985-41390	19850304
	IL 74492	A1	19880630	IL 1985-74492	19850304
	US 4739045	A	19880419	US 1985-708622	19850305
PRAI	GB 1984-5763		19840306		
	EP 1985-200264		19850226		

AB A process is described for the dissoln. of nucleotides and(or) polynucleotides in a nonaq. and(or) mixed nonaq./aq. medium in the presence of a macromol. ***ligand*** such as a ***crown*** ***ether*** . Thus, the purifn. of ***DNA*** from RNA and extraneous protein can be carried out very simply by selective dissoln. in an alc. contg. a macrocyclic polyether in which the less sol. components such as RNA and protein ppt. In addn. to providing a means for sepg. and purifying nucleotides and polynucleotides, the process also may be used for the conversion of double-stranded ***DNA*** into single-stranded

L7 ANSWER 7 OF 16 CAPLUS COPYRIGHT 2000 ACS
AN 1997:6136 CAPLUS
DN 126:114711
TI The study of rare earth metals - ligands - ***DNA*** ternary interactions
AU Ihara, T.; Sueda, S.; Kumasaki, A.; Tsuji, H.; Takagi, M.
CS Dep. of Chemical Science and Technology, Kyushu University, Fukuoka, 812-81, Japan
SO Kidorui (1996), 28, 60-61
CODEN: KIDOEP; ISSN: 0910-2205

PB Nippon Kidorui Gakkai
DT Journal
LA Japanese/English
AB Recently, it was revealed that rare earth metals, in particular Ce(IV), significantly catalyzed the hydrolysis of ***DNA*** phosphodiester bond. Then, it has been recognized the requirement of developing new ***DNA*** ligands for locating metal ions to appropriate loci on ***DNA*** , in which it is desirable that the interaction of the ligands with the metal increase the hydrolytic activity of the metal or, at least, does not suppress it seriously. For this purpose, we synthesized anthraquinone - ***crown*** ***ether*** (ant-crown) and - sugar (ant-D/L-glc) conjugates as ***DNA*** ligands. The ***DNA*** ligands enhanced the ***DNA*** cleaving activity of lanthanoid ions in a synergistic way. ***DNA*** cleaving activities of these metal ions were appreciably diminished by ant-ida, which had iminodiacetic acid as a metal binding site. These results were explicable by Lewis acidity or residual coordination sites of centered metal in the complex with ***DNA*** ligands. Although these tendency is common in traditional study on the org. ester hydrolysis by using metal ion as a catalyst, the results obtained here is the first example of systematic study of the chelator effect of conjugated ***DNA*** ***ligand*** on the rare earth metal catalyzed ***DNA*** hydrolysis.

L7 ANSWER 5 OF 16 BIOTECHDS COPYRIGHT 2000 DERWENT INFORMATION LTD
AN 1998-02535 BIOTECHDS
TI ***Nucleic*** acids covalently modified with electron donors and acceptors;
DNA probe for use in hybridization, diagnostic or bioconductor
AU Meade T J; Welch T W
PA California-Inst.Technol.
LO Pasadena, CA, USA.
PI WO 9746568 11 Dec 1997
AI WO 1997-US9739 4 Jun 1997
PRAI US 1996-659987 7 Jun 1996
DT Patent
LA English
OS WPI: 1998-042109 [04]
AB A nucleoside containing a covalently attached ***polydentate*** ***ligand*** (CAPL) is claimed. The ***ligand*** is attached at the 2' or 3' position of the nucleoside. Also claimed are: a phosphoramidite nucleoside containing a CAPL; a composition of a nucleoside containing a CAPL, where the nucleoside is covalently attached to control pore glass (CPG); a composition of an oligonucleotide (oligo) covalently attached to CPG, where at least 1 nucleoside of the oligo is ***polydentate*** -modified; a composition of nucleoside, oligo or phosphoramidite nucleoside with a transition metal chelated to the ***polydentate*** nucleoside; a ss ***nucleic*** acid containing at least 1 electron donor and at least 1 electron acceptor attached via ***polydentate*** nucleoside, a terminal base or the 2' or 3' position of a ribose of the ribose-phosphate backbone; a composition of a ss ***nucleic*** acid containing at least 1 electron donor and a ss ***nucleic*** acid with at least 1 electron acceptor; production of ***nucleic*** acid with electron transfer moiety attached; and detecting a target sequence by hybridizing a ss ***nucleic*** acid containing at least 1 electron donor and electron acceptor. (81pp)

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Search Results -

Terms	Documents
l21 same l4	18

Database: All Databases (USPT + EPAB + JPAB + DWPI + TDBD)

Refine Search: `l21 same l4`

Search History

DB Name	Query	Hit Count	Set Name
ALL	l21 same l4	18	L22
ALL	l20 same l3	66	L21
ALL	l19 same l2	415	L20
ALL	nucleophil$	21827	L19
ALL	l12 same l3	71	L18
ALL	l12 and l3	234	L17
ALL	l14 and l4	34	L16
ALL	l14 same l3	4	L15
ALL	l10 same l2	59	L14
ALL	l12 same l11	7	L13
ALL	l10 same l4	671	L12
ALL	chelator or polychelator	3984	L11
ALL	crown ether or cryptate or polydentate	6381	L10
ALL	l6 and l2	38	L9
ALL	protein or antisense	206379	L8
ALL	l6 same l2	5	L7
ALL	l5 same l3	697	L6
ALL	l1 same l4	25768	L5
ALL	polymer or polylysine or poly-l-lysine	1115735	L4

ALL	polymer or p[redacted]lysine or poly-l-lysine	11157[illegible]	L4
ALL	transfer or transfection or gene therapy or delivery	1255747	L3
ALL	nucleic or dna or polynucleotide or plasmid or vector	226375	L2
ALL	crown ether or cryptate or polydentate or polyether	89294	L1

Document Number 56

Entry 56 of 71 File: USPT Oct 1, 1985

DOCUMENT-IDENTIFIER: US 4544710 A
TITLE: Polymer bound aryl substituted crown ethers

BSPR:
This invention relates to a method for the production of polymer bound aryl substituted crown ethers, their use as catalysts and the catalysts themselves. More specifically, this invention relates to insoluble bound catalysts useful in phase transfer oxidations, nucleophilic displacements, reductions, carbene generation, condensations, alkylations and elimination reactions.

BSPR:
The process of the present invention is also concerned with the use of polymer bound aryl substituted crown ethers as a catalyst in phase transfer oxidation reactions, nucleophilic displacements, reductions, carbene generation, condensations, alkylations and elimination reactions.

DEPR:
The polymer bound aryl substituted crown ethers of the present invention can be used as catalysts in numerous types of reactions. Specifically, the polymer bound aryl substituted crown ethers of this invention can be used as catalysts in phase transfer oxidations, nucleophilic displacements, reductions, carbene generation, condensations, alkylations and elimination reactions.

DEPR:
For a discussion of reactions in which similar polymer bound crown ethers are useful, see Regen, S. L., Angewandte Chemie, reference supra, and Phase Transfer Catalysis in Organic Synthesis, 1977, by Weber and Gokel, Chapter 1, Section 9, "Unchanged Catalysts: The Crown Ethers," p 9.

Document Number 63

Entry 63 of 71 File: USPT Mar 17, 1981

US-PAT-NO: 4256859
DOCUMENT-IDENTIFIER: US 4256859 A
TITLE: Substituted crown polyethers
DATE-ISSUED: March 17, 1981
US-CL-CURRENT: 525/333.4; 525/330.6, 525/333.3, 525/385, 549/351, 549/353

APPL-NO: 6/ 024625
DATE FILED: March 28, 1979

Document Number 2

Entry 2 of 66 File: USPT Jan 4, 2000

DOCUMENT-IDENTIFIER: US 6011020 A
TITLE: Nucleic acid ligand complexes

BSPR:
The SELEX method encompasses the identification of high-affinity Nucleic Acid Ligands containing modified nucleotides conferring improved characteristics on the ligand, such as improved in vivo stability or improved delivery characteristics. Examples of such modifications include chemical substitutions at the ribose and/or phosphate and/or base positions. SELEX-identified Nucleic Acid Ligands containing modified nucleotides are described in U.S. patent application Ser. No. 08/117,991, filed Sep. 8, 1993, entitled "High Affinity Nucleic Acid Ligands Containing Modified Nucleotides," abandoned in favor of U.S. patent application Ser. No. 08/430,709, now U.S. Pat. No. 5,660,985, that describes oligonucleotides containing nucleotide derivatives chemically modified at the 5- and 2'-positions of pyrimidines. U.S. patent application Ser. No. 08/134,028, supra, describes highly specific Nucleic Acid Ligands containing one or more nucleotides modified with 2'-amino (2'-NH.sub.2), 2'-fluoro (2'-F), and/or 2'-O-methyl (2'-OMe). U.S. patent application Ser. No. 08/264,029, filed Jun. 22, 1994, entitled "Novel Method of Preparation of Known and Novel 2'-Modified Nucleosides by Intramolecular Nucleophilic Displacement", describes oligonucleotides containing various 2'-modified pyrimidines.

DEPR:
The SELEX method encompasses the identification of high-affinity Nucleic Acid Ligands containing modified nucleotides conferring improved characteristics on the ligand, such as improved in vivo stability or improved delivery characteristics. Examples of such modifications include chemical substitutions at the ribose and/or phosphate and/or base positions. SELEX-identified Nucleic Acid Ligands containing modified nucleotides are described in U.S. patent application Ser. No. 08/117,991, filed Sep. 8, 1993, entitled "High Affinity Nucleic Acid Ligands Containing Modified Nucleotides", that describes oligonucleotides containing nucleotide derivatives chemically modified at the 5- and 2'-positions of pyrimidines. U.S. patent application Ser. No. 08/134,028, supra, describes highly specific Nucleic Acid Ligands containing one or more nucleotides modified with 2'-amino (2'-NH.sub.2), 2'-fluoro (2'-F), and/or 2'-O-methyl (2'-OMe). U.S. patent application Ser. No. 08/264,029, filed Jun. 22, 1994, entitled "Novel Method of Preparation of Known and Novel 2'-Modified Nucleosides by Intramolecular Nucleophilic Displacement", describes oligonucleotides containing various 2'-modified pyrimidines.

Document Number 54

Entry 54 of 66 File: USPT Jun 3, 1997

DOCUMENT-IDENTIFIER: US 5635382 A
TITLE: Method for enhancing transmembrane transport of exogenous molecules

BSPR:
Folated ligands can be complexed with the exogenous molecules hereinbefore defined using art-recognized covalent coupling techniques identical to or closely paralleling those referenced above for the biotinylate ligand complexes. Thus, for example, a carboxylic acid on the folate moiety or on the exogenous molecule can be activated using, for example, carbonyldiimidazole or standard carbodiimide coupling reagents such as 1-ethyl-3-(3-dimethylaminopropyl)carbodiimide (EDC) and thereafter reacted with the other component of the complex having at least one nucleophilic group, viz hydroxy, amino, hydrazo, or thiol, to form the respective complex coupled through an ester, amide, or thioester bond. Thus complexes can be readily formed between folate ligands and peptides, proteins, nucleic acids, including both RNA and DNA, phosphorodithioate analogs of nucleic acids, oligonucleotides, polynucleotides, lipids and lipid vesicles, phospholipids, carbohydrates and like exogenous molecules capable of modifying cell function. The ligand complexes enable rapid, efficient delivery of the cell function-modifying moiety through cellular membranes and into the cell.

Document Number 5

Entry 5 of 5 File: DWPI Feb 22, 1999

DERWENT-ACC-NO: 1999-204365
DERWENT-WEEK: 199927

TITLE: New polymer compositions which include e.g. polycation segments

PRIORITY-DATA:

1998US-0912968	July 30, 1998
1997US-0912968	August 1, 1997

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
AU 9886806 A	February 22, 1999	N/A	000	A61K031/735
WO 9906055 A1	February 11, 1999	E	094	A61K031/735

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	APPL-DESCRIPTOR
AU 9886806A	July 31, 1998	1998AU-0086806	N/A
AU 9886806A	N/A	WO 9906055	Based on
WO 9906055A1	July 31, 1998	1998WO-US16012	N/A

INT-CL (IPC): A61K 31/735; C07H 21/04; C08F 283/00; C08F 293/00; C08L 1/00; C08L 71/02

Document Number 4

Entry 4 of 5 File: USPT Dec 23, 1997

DOCUMENT-IDENTIFIER: US 5700830 A
TITLE: Use of nitric oxide-releasing agents for reducing metastasis risk

DEPR:
Any of a wide variety of polymers can be used in the context of the present invention. It is only necessary that the polymer selected is biologically acceptable. Illustrative of polymers suitable for use in the present invention are polyolefins, such as polystyrene, polypropylene, polyethylene, polytetrafluorethylene, polyvinylidene difluoride, and polyvinylchloride, polyethylenimine or derivatives thereof, polyethers such as polyethyleneglycol and polysaccharides, polyesters such as poly(lactide/glycolide), polyamides such as nylon and polyurethanes. Any of a wide variety of biopolymers can be used in the context of the present invention. Biopolymers suitable for use include peptides, polypeptides, proteins, oligonucleotides, nucleic acids, e.g., RNA and DNA, glycoproteins, glycogen, and the like. Alternatively, a subunit of a biopolymer, such as a fatty acid, glucose, an amino acid, a succinate, a ribonucleotide, a ribonucleoside, a deoxyribonucleotide, and a deoxyribonucleoside, can be used. Illustrative examples include antibodies or fragments thereof; extracellular matrix proteins such as laminin, fibronectin, or their cell attachment-site peptide recognition sequences, such as RGDS, IKVAV, YIGSR, and the like; and growth factors, peptide hormones, and other polypeptides for which there are high-affinity cell surface receptor sites, such as EGF, TGF.alpha., TGF.beta. and TNF. Such molecules, upon receptor binding, may be internalized into the target cells, thereby facilitating intracellular delivery of the NO donor moiety.

Document Number 2

Entry 2 of 38 File: USPT Nov 30, 1999

US-PAT-NO: 5993972
DOCUMENT-IDENTIFIER: US 5993972 A
TITLE: Hydrophilic and hydrophobic polyether polyurethanes and uses therefor
DATE-ISSUED: November 30, 1999
US-CL-CURRENT: 428/423.1; 2/161.7, 428/375, 428/423.7, 428/424.8, 528/76, 604/891.1
APPL-NO: 9/ 040692
DATE FILED: March 18, 1998
PARENT-CASE:
This is a continuation-in-part of application Ser. No. 08/915,583 filed Aug. 26, 1997 which claims the benefit of U.S. Provisional Application No. 60/024,526 entitled Hydrophilic/Hydrophobic Polyether Polyurethanes filed by the applicants on Aug. 26, 1996 and U.S. Provisional Application No. 60/040,094 entitled Hydrophilic and Hydrophobic Polyether Polyurethanes and Uses Therefor filed by the applicants on Mar. 7, 1997.

Document Number 4

Entry 4 of 38 File: USPT Oct 5, 1999

DOCUMENT-IDENTIFIER: US 5962566 A
TITLE: Biocompatible and biodegradable nanoparticles designed for proteinaceous drugs absorption and delivery

ABPR:
The presently claimed invention comprises a biopolymer nanoparticle for drug delivery wherein the nanoparticle comprises a homogeneous blend of an aliphatic polyester polymer blended with a polyether, a lipophilic or polypeptide drug and a biocompatible cholesterol interacting agent for preserving the activity of the drug administered to the patient while at the same time controlling the release of the drug. Methods for making the homogeneous drug delivery nanoparticles are also disclosed.

BSPR:
The invention allows production of biocompatible and biodegradable pseudolatex particles with a homogenous size below 140 nm. The nanoparticles of the invention advantageously show efficient immobilization of proteinaceous drugs by preserving their activity and allowing for their controlled release. The nanoparticles of the invention are stable colloidal carriers against environmental attacks such as pH modifications or freezing or freezedrying processes. All excipients of the formulation are biocompatible for parenteral uses. The polymer blend of the present invention is used for the preparation of colloidal vectors. The polymer blend of the invention has specific properties in terms of solubility, viscosity and in terms of protein interaction. The nanoparticles prepared by the polymeric blend of the invention can advantageously be used for administering proteinaceous drugs. By using the polymeric blend of the invention the activity of the immobilized protein can be kept.

Document Number 2

Entry 2 of 7 File: USPT Nov 9, 1999

DOCUMENT-IDENTIFIER: US 5980861 A
TITLE: Chelator compositions and methods of synthesis thereof

DEPR:
Accordingly, preferred chelator moieties include amidothiols, including, e.g., mercaptoacetyltripeptides, such as, e.g., mercaptoacetyltriglycine (MAG.sub.3), mercaptoacetyltriserine, and the like. Mercaptoacetyl-tripeptides can chelate radionuclides such as Tc(O).sup.3+ by coordination through the three amide nitrogens of the peptide backbone, and the terminal mercapto group. Other chelator moieties which may find use in the present invention include cyclams, porphyrins, crown ethers, azacrown ethers, and the like. As the skilled artisan will understand from the teachings herein, a chelator moiety will preferably be capable of covalently bonding to a nucleic acid, e.g., RNA or PNA, or other polymer compound. Thus, a mercaptoacetyltripeptide molecule can form an amide bond, e.g., through the C-terminal carboxyl moiety of the tripeptide, with a nitrogen atom of the nucleic acid. Similarly, a mercaptoacetyltripeptide can form an ester bond to a nucleic acid through an oxygen atom of the nucleic acid. The chelator moiety can be covalently linked to the nucleic acid through covalent bonds to other functionalities of the chelator moiety. For example, a mercaptoacetyltripeptide which includes an aspartate residue can form an ester or amide bond to a nucleic acid through the side-chain carboxylate of the aspartate residue.

Document Number 5

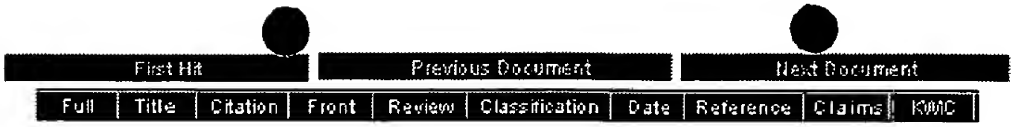
Entry 5 of 7 File: USPT Feb 15, 1994

DOCUMENT-IDENTIFIER: US 5286887 A
TITLE: Polymers of macrocyclic metal chelators and methods for the preparation and use thereof

BSPR:
In accordance with the present invention, the novel polymers are prepared by aromatic nucleophilic substitution reaction of substituted macrocyclic metal chelators with polybasic nucleophiles. A wide variety of different macrocyclic metal chelators are known or may readily be prepared using conventional organic synthetic methods. For purposes of the present invention, a macrocyclic metal chelator is defined as a heterocyclic ring structure which is capable of forming a complex with (i.e., chelates) a metal ion. Exemplary structures of this type include, but are not limited to, the following: porphyrins, benzporphyrins, phthalocyanines, porphycenes, oxaporphycenes, cryptands, sappharins and crown ethers. Moreover, while the present discussion focuses in detail upon individual macrocyclic metal chelators, it would be readily apparent to those of skill in the art that various multimeric structures (e.g., diporphyrins) would be equally suitable for use in accordance with the present invention.

BSPR:
The polymers of the invention are formed by reacting a monomer mixture comprising at least one macrocyclic metal chelator with a suitable polybasic nucleophile, such that any leaving group on the macrocyclic metal chelator is replaced by the nucleophile to form a bridging group. Any polydentate nucleophile which carries out nucleophilic substitution (in particular, aromatic nucleophilic substitution) will accomplish this polymerization. Suitable nucleophiles include both dianions (i.e., single atoms on a molecule with oxidation states of -2) and two or more nucleophilic anions or neutral nucleophiles attached to the same molecule. Exemplary nucleophiles include alkoxides, mercaptides, amines and amides. Reagents such as sodium hydroxide, sodium sulfide and sodamide are difunctional by virtue of the fact that upon nucleophilic substitution on, e.g., a phenyl group, the product (phenol, thiophenol or aniline, respectively) is electronegatively substituted; this product is instantly converted into its anion which, by further reaction, brings about polymerization. Particular nucleophiles useful in accordance with the present invention include the following: NaS(R')SNa, NR"HR'NR"H, NaSAr'SNa, NaOR'ONa, Na.sub.2 S, Na.sub.2 Se, NaNH.sub.2, and Na.sub.2 C.sub.2, in which R' is alkylene, Ar' is arylene and R' is hydrogen, alkyl or aryl. Exemplary nucleophiles include disodium ethanedithiolate, disodium ethylene glycolate, ethylene diamine and sodium oxide.

CLPR:
4. A polymer according to claim 1, wherein said at least one macrocyclic metal chelator is selected from the group consisting of porphyrins, benzporphyrins, phthalocyanines, porphycenes, oxaporphycenes, cryptands, sappharins and crown ethers.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Document Number 10

Entry 10 of 34 File: USPT Dec 22, 1998

DOCUMENT-IDENTIFIER: US 5852182 A
TITLE: Thiol-derivatized oligonucleosides

BSPR:
R.sub.2 includes a steroid molecule, a reporter molecule, a lipophilic molecule, a reporter enzyme, a peptide, a protein, a reporter group, an alkylator, an intercalator, a cell receptor binding molecule, a crown ether, a crown amine, a porphyrin, a crosslinking agent, a peptide nucleic acid, or a thiol attached to a poly(ethylene glycol).

BSPR:
Proteins and peptides are utilized in their usual sense as polymers of amino acids. Normally peptides comprise such polymers that contain a smaller number of amino acids per unit molecule than do the proteins. Particularly useful as peptides and proteins are sequence-specific peptides and proteins including phosphodiesterase, peroxidase, phosphatase and nuclease proteins. Such peptides and proteins include SV40 peptide, RNaseA, RNase H and Staphylococcal nuclease.

CLPV:
R.sub.2 comprises a steroid molecule, a reporter molecule, a lipophilic molecule, a reporter enzyme, a peptide, a protein, a reporter group, an alkylator, an intercalator, a cell receptor binding molecule, a crown ether, a crown amine, a porphyrin, a crosslinking agent, a peptide nucleic acid, or a thiol attached to a poly(ethylene glycol).

Document Number 15

Entry 15 of 34 File: USPT Feb 17, 1998

US-PAT-NO: 5718915
DOCUMENT-IDENTIFIER: US 5718915 A
TITLE: Antiviral liposome having coupled target-binding moiety and hydrolytic enzyme
DATE-ISSUED: February 17, 1998
US-CL-CURRENT: 424/450; 424/94.6, 424/94.61, 424/94.63, 435/174, 435/177, 435/236, 436/528, 514/44
APPL-NO: 8/ 424874
DATE FILED: April 19, 1995
PARENT-CASE:
RELATED APPLICATIONS This application is a continuation-in-part of copending U.S. application Ser. No. 08/332,514 filed Oct. 31, 1994, entitled "Complementarily Bonded Two And Three Dimensional Supramolecular Structures" hereby incorporated by reference.

Document Number 20

Entry 20 of 34 File: USPT Jun 25, 1996

US-PAT-NO: 5530123
DOCUMENT-IDENTIFIER: US 5530123 A
TITLE: Sapphyrin chelator derivatives
DATE-ISSUED: June 25, 1996
US-CL-CURRENT: 540/474; 540/472
APPL-NO: 8/ 321148
DATE FILED: October 11, 1994
PARENT-CASE:
This application is a divisional application of copending Ser. No. 07/964,607 filed Oct. 21, 1992, the entire text of which is incorporated by reference herein.